

## ADDITIONS TO OUR KNOWLEDGE OF THE FLORA OF HAINAN<sup>1</sup>

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OUR knowledge concerning the flora of Hainan Island is augmented in this paper with the addition of eighteen species and one variety. Twelve of the species and the one variety are proposed as new, the rest being previously described species now first credited to Hainan. Among the new species are five species of *Symplocos* named by Merrill & Chun in connection with their study of the Hainan flora. The genera *Albertisia* and *Lansium* are new to China.

The material used for this study is based on a part of the accumulated collections of Hainan and southern Chinese plants in the herbarium of the Arnold Arboretum, where the types of the new forms herein described are deposited. These collections were made under the auspices of the Botanical Institute of Sun Yatsen University and Lingnan University, with the financial coöperation of the Arnold Arboretum.

### PROTEACEAE

*Helicia* Loureiro

*Helicia silvicola* W. W. Smith, Notes Bot. Gard. Edinb. 10: 181. 1918.

HAINAN: Kan-en District, Chim Fung Mt., near Sha Mo Kwat Village, *S. K. Lau* 5000, Dec. 13-31, 1934, a shrub, 4 m. high, rare, on dry gentle slopes, in forests, in fruit; Luktung, *S. K. Lau* 27163, June 17, 1936, a shrub, 4 m. high, in dense woods, flowers yellowish white. KWANGTUNG: Shih Wan Tai Shan, Tai Mien Shan, *H. Y. Liang* 69656, July 14, 1937, a shrub or small tree 4-6 m. high, in dense forests. Yunnan; new to Hainan and to Kwangtung.

### MENISPERMACEAE

*Albertisia* Beccari

*Albertisia Perryana* sp. nov.

Frutex scandens, ramulis ultimis 1.5 mm. diametro, pubescentibus; foliis tenuiter coriaceis petiolatis ovatis vel ovato-ellipticis, 8-14 cm. longis, 2.5-5 cm. latis, acutis vel abrupte acuminatis, basi cuneatis, margine integris, supra subnitidis, in sicco utrinque concoloribus subolivaceis glabris, costa supra vix prominula, nervis lateralibus utrinsecus 3-5, subpatulis, supra subconspicuis, subtus elevatis, prope marginem anastomosantibus, inferioribus angulo-acutiore decurrentibus, ideoque lamina subtrinerviis, venulis supra subconspicuis, subtus distinctis; petiolis 1-2.5 cm. longis, teretibus, in sicco substriatis, utrinque dilatatis; floribus axillaribus, dioicis, floribus ♂ 3-6-fasciculatis, pedunculis ad 5 mm. longis, pubescentibus, pedicellis ad

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3 mm. longis; sepalis extus adpresso pubescentibus, exterioribus 6 minutis inaequalibus bracteiformibus, ad 1.5 mm. longis, interioribus 3 multo majoribus, circiter 8 mm. longis, in pseudocorollam connatis; petalis 6 minutis late obovatis, haud 1 mm. longis, extus pubescentibus, margine integris; staminibus numerosis, in columnam conicam coalitis, 5 mm. longis, antheris subglobosis, horizontaliter insertis bilocularibus transverse dehiscentibus; floribus ♀ ignotis; fructibus axillaribus subsessilibus 2–6 receptaculo insertis divergentibus ellipsoideis, 2.5–3.3 cm. longis, 1.5–2 cm. latis, haud compressis dense tomentellis, endocarpio haud compresso vel leviter latere compresso, leviter scabrido vel levi, exocarpio carnosus, 2–4 mm. crasso, condylis in seminis cavitate nullis, seminibus circiter 2 cm. longis et 1 cm. latis, haud compressis, cotyledonibus subaequalibus, albumine nullo; stylis in fructibus junioribus a basi notatis, filiformibus; pedunculis fructigeris 1–1.5 cm. longis, pubescentibus.

HAINAN: Hung Mo Shan and vicinity, *Tsang & Fung* 691 = *LU* 18225, Aug. 12, 1929, 6 m. high, on mountain tops, in forests; Mo San Leng, *N. K. Chun & C. L. Tso* 44315, Nov. 1932, a woody vine, alt. 3000 ft.; Ch'ang-kiang District, Ka Chik Shan and vicinity, *S. K. Lau* 1618, April 24, 1933, 2937, Dec. 23, 1933, a woody climber, rare, on dry cliffs and gentle slopes, in thickets or forests; without exact locality, *H. Y. Liang* 36737, Oct. 23, 1933, 64748, Jan. 17, 1934, a scandent shrub, open shrubbery or in light woods, twining on trees; Yaichow, *F. C. How* 71040, March–July, 1933, *H. Y. Liang* 62145, July 18, 1933, 62790, Aug. 23, 1933, scandent, twining on trees and shrubs, in shade of mixed forests; Po-ting, *F. C. How* 71852, April 12, 1935, 72792, June 9, 1935, 73303 (TYPE), July 25, 1935, 73721, Sept. 25, *S. K. Lau* 28279, Nov. 30, 1936, twining, in forested ravines, alt. 750–1600 ft.; Bak Sa, *S. K. Lau* 26331, April 19, 1936, scandent, in dense woods; Loktung, *S. K. Lau* 27254, June 25, 1936, scandent, 6 m. high, in dense woods.

The genus *Albertisia*, with its single species *A. papuana* Becc. and its two varieties, was previously known only from New Guinea and the Malay Peninsula. This new species considerably extends the range of the genus and is apparently of wide and not too rare occurrence in Hainan. Among the specimens enumerated, *How* 71852 and *Lau* 1618 and 26331 are male plants in flower, while the rest are all female plants with fruits of varying stages of development. No female flowers are yet available. The Hainan plants agree closely with the characters of the genus except that in the male flowers there are six petals, more or less broadly ovate, entire-margined, and pubescent without; while in the type species of the genus there are only three petals, triangular in shape, glabrous and with crenate-lobulate margins. Only one New Guinean collection is available for comparison, and that has fruits and female flowers only. It agrees closely with the Hainan plants in general habit and other characters, and it is safe to conclude that the two species are congeneric.

In the shape and venation of the leaves, the Hainan plants manifestly resemble the Papuan species, except that in the former the leaves are much smaller, and the acumen of the leaves and the petioles are shorter. In addition to the characters mentioned above, *A. papuana* differs from the Hainan species in the fruits as well as the seeds being generally larger, more laterally compressed, the endocarps being thicker, and the cotyledons more unequal.

This new species is dedicated to Dr. L. M. Perry, who has painstakingly

helped the author to dissect and study the plant thoroughly and to compare it with the Papuan material and previously published data.

### ROSACEAE

#### *Photinia* Lindley

##### *Photinia Benthamiana* Hance var. *obovata* var. nov.

A typo speciei recedit foliis plus minusve oblongo-ovatis, 6–8 cm. longis, 3–4 cm. latis, late acutis vel subrotundatis, floribus plus minusve confertis.

HAINAN: Ling Shui, *F. C. How* 73904 (TYPE), Oct. 20, 1935, a tree 12 m. high, in thickets, alt. 3000 ft.

### MELIACEAE

#### *Lansium* Jack

##### *Lansium dubium* Merr. Govt. Lab. Publ. [Philip.] 17: 23. 1904.

HAINAN: Bak Sa, *S. K. Lau* 25411, Feb. 23, 1936, a shrub along streams, fruits yellow, 25472, Feb. 27, 1936, a tree in woods, fruits reddish yellow. Philippine Islands.

The genus *Lansium* has previously been unrecorded from China. These Hainan specimens are in fruit and they closely match specimens representing *Lansium dubium* Merr., a species of fairly wide distribution in the Philippines, especially with regard to the leaflets with the fine reticulations distinct on both surfaces. The Hainan plants have fruits somewhat ovoid in shape, while those of the Philippine specimens are more or less globose.

### STERCULIACEAE

#### *Reevesia* Lindley

##### *Reevesia lancifolia* sp. nov.

Arbor 10–12 m. alta, ramulis junioribus inflorescentiisque leviter stellato-pubescentibus, ramis glabris teretibus; foliis chartaceis utrinque glabris concoloribusque, pallidis nitidis, oblongo-lanceolatis, 8–12 cm. longis, 1.5–2.5 cm. latis, longe acuminatis, basi acutis, margine integris, costa supra impressa subtus elevata, nervis lateralibus utrinsecus 6 vel 7, gracilibus, utrinque subconspicuis, prope marginem arcuato-anastomosantibus, venis tertiaris inconspicuis; petiolo 1–2.5 cm. longo, glabro; cymis terminalibus, consperse breviter stellato-pubescentibus, multifloris, haud pedunculatis, floribus inclusis usque ad 7 cm. longis, pedicellis 6–8 mm. longis; calycis tubo extus consperse breviter stellato-pubescente, 5–6 mm. longo, circiter 4 mm. diametro, lobis oblongo-ovatis acutis 1 mm. longis; petalis ignotis; androgynophoro glabro circiter 2.5 cm. longo, ovario glabro; fructibus longe pedicellatis lignosis, 3.5–4 cm. longis, 2.4–2.8 cm. latis, oboviedo-oblongis, 5-lobatis, apice rotundatis depresso, basi acutis, extus griseo-furfuraceis; pedicellis 2–2.5 cm. longis; seminibus circiter 2.6 cm. longis, alis brunneis circiter 2 cm. longis, basim versus 0.7 cm. latis, oblongis, apice valde obtusis.

HAINAN: Fan Yah, *N. K. Chun & C. L. Tso* 44052, in 1932–33, a tree 10 m. high, in forests; no precise locality, *H. Y. Liang* 64955 (TYPE), Feb. 19, 1934, a tree 12 m. high, in forests on mountain slopes, fruit green.

A species allied to *R. thyrsoides* Lindl., differing chiefly in the much narrower lanceolate leaves.

## THEACEAE

*Tutcheria* Dunn*Tutcheria ovalifolia* sp. nov.

Arbor 10 m. alta, ramis ramulisque glabris; foliis coriaceis, apice ramulorum confertis, oblongo-ovatis vel obovatis, 3.5–4.5 cm. longis, 1.8–3 cm. latis, rotundatis vel subrotundatis, basi cuneatis, margine deorsum integris vel subintegris, sursum incurvato-serratis, utrinque glabris, in sicco luteo-olivaceis utrinque subconcoloribus, supra subnitidis, nervis lateralibus utrinsecus 6–10 gracilibus supra subconspicuis, subtus distinctis; petiolis crassis, 2–3 mm. longis; floribus ignotis; capsulis solitariis, obovoideis, breviter (2 mm.) pedicellatis, 3-locularibus, 10 mm. longis, 6 mm. latis, adpresso pubescentibus vel glabris, leviter triangularibus, loculicide dehiscentibus, apice subacutis, stylis persistentibus, brevibus; seminibus subellipticis, plano-convexis, 4–5 mm. longis, 2 mm. latis.

HAINAN: Po-ting, S. K. Lau 28218 (TYPE), Nov. 16, 1936, a tree 10 m. high, in forests.

This species is characterized by the relatively small obovate rounded leaves, which are more or less densely arranged at the tips of the branches. It is probably near *Tutcheria symplocifolia* Merr. & Metcalf, but it may be distinguished by the smaller, densely crowded, rounded leaves and by its somewhat different fruits, which are, unfortunately, not quite mature.

## BEGONIACEAE

*Begonia* Linnaeus*Begonia peltatifolia* sp. nov. § *Diploclinium*.

Herba acaulis glabra erecta ad 30 cm. alta, rhizomate circiter 6 mm. crasso; foliis chartaceis, longe petiolatis, latissime peltatis, leviter inaequilateraliter ovatis, 10–11 cm. longis, 7.5–8 cm. latis, basi latissime rotundatis, apice abrupte brevissime acuminatis, margine integris, 10–12-nerviis, nervis primariis supra leviter subconspicuis, subtus subconspicuis, reticulis laxis obscuris; petiolo circiter 18 cm. longo; caulis floriferis efoliatis, 20 cm. longis; infructescentiis cymosis, longe pedunculatis, folia aequantibus vel quam eis longioribus, ramis longioribus ad 6.5 cm. longis, pedicellis 1–2.5 cm. longis, capsulis inaequaliter 3-alatis, circiter 1.6 cm. longis et 2.3 cm. latis, apice truncatis, basi subrotundatis, glabris, alis majoribus 1.5 cm. latis, apice subrotundatis, minoribus 8 mm. latis, rotundatis.

HAINAN: Bak Sa, S. K. Lau 27552 (TYPE), July 20, 1936, an herb in dense woods, fruit pale brown.

A very distinct species, characterized by its totally glabrous habit and especially by its entire, only slightly inequilateral, broadly peltate leaves.

## STYRACACEAE

*Styrax* Linnaeus*Styrax suberifolius* Hook. & Arn. Bot. Beechey Voy. 196. t. 40. 1841.

HAINAN: Kumyun, S. K. Lau 27607, Aug. 3, 1936, a tree 7 m. high, in dense woods on slopes. Kwangtung to Yunnan; new to Hainan.

## SYMPLOCACEAE

*Symplocos* Jacquin

*Symplocos punctato-marginata* A. Chev. ex Guillaum., Bull. Soc. Bot. France 79: 174. 1932, Lecomte, Fl. Gén. Indo-Chine 3: 1004. 1933; Merr. Lingnan Sci. Jour. 15: 424. 1936.

HAINAN: Yaichow, H. Y. Liang 62253, July 23, 1933, a tree 15 m. or more high, in forested ravines, in dense shade, flowers yellow; Po-ting, F. C. How 72873, June 12, 1935, a tree 10 m. high, alt. 2800 ft., flowers greenish white, fragrant. Indo-China, also recorded from Kwangtung proper; new to Hainan.

*Symplocos hainanensis* Merrill & Chun in herb. sp. nov. Subgen. *Hopea*, § *Bobua*, *Plura*.

Arbor 10–15 m. alta, ramis ramulisque glabris teretibus, atro-brunneis; foliis chartaceis distincte petiolatis glabris oblongo-ellipticis, 8–11 cm. longis, 2.5–4 cm. latis, acuminatis, basi cuneatis, margine crenato-serrulatis, supra nitidis viridibus, subtus pallide viridibus, costa supra leviter impressa subtus valde elevata, nervis lateralibus utrinsecus 7–10 arcuato-anastomosantibus, nervis venulisque utrinque perspicuis; petiolis 0.5–1 cm. longis glabris; inflorescentiis spicatis axillaribus gracilibus, ad 6 cm. longis, junioribus parce pubescentibus, mox glabrescentibus, multifloris; floribus sessilibus vel subsessilibus, bracteis minutis, late ovatis, circiter 1 mm. longis, parce pubescentibus; calycis tubo valde crasso, 1 mm. longo, glabro, lobis 4 vel 5 oblongis, 2 mm. longis, glabris; petalis 4 vel 5 albis ovatis, 4 mm. longis, glabris; staminibus circiter 25–30, filamentis gracilibus glabris, 3–5 mm. longis; ovario 3-loculari; disco annulari glabro; stylo 5 mm. longo, glabro, stigmate capitato; fructibus oblongis, ad 1.5 cm. longis et 0.5 cm. latis, glabris sessilibus vel breviter pedicellatis, pedicellis ad 2 mm. longis, calyce persistente.

HAINAN: Po-ting, F. C. How 73130 (TYPE), July 8, 1935, a tree 12 m. high, in forested ravines, alt. 1500 ft., flowers white, slightly fragrant, 73264, July 20, 1935, a tree 15 m. high, in forested ravines, alt. 1400 ft., fruit pale green, 73424, no field notes available; Ling Shui, F. C. How 73764, Oct. 10, 1935, a tree 10 m. high, in forests, alt. 1800 ft., flowers white, fruit pale green.

This species is probably nearest *Symplocos lancifolia* Sieb. & Zucc., from which it may be distinguished by being glabrous except for the inflorescences, by the broader leaves, the more slender inflorescences, the white petals, and the oblong, much larger fruits.

*Symplocos stenophylla* Merrill & Chun in herb. sp. nov. Subgen. *Hopea*, § *Bobua*, *Plura*.

Frutex 2 m. altus, ramis brunneis teretibus, ramulis novellis glabris fulvis plus minusve angularibus; foliis chartaceis vel subcoriaceis subsessilibus vel breviter petiolatis glabris lanceolatis, 8–10 cm. longis, 1.2–1.5 cm. latis, longe acuminatis, basi valde attenuatis, margine serrulatis leviter revolutis, supra viridibus, subtus pallide viridibus, costa supra leviter impressa subtus elevata, nervis lateralibus utrinsecus 5–7 arcuato-adscendentibus prope marginem anastomosantibus, nervis venulisque gracilibus utrinque perspicuis; petiolis ad 5 mm. longis glabris; inflorescentiis spicatis simplicibus axillaribus parce pubescentibus vel glabrescentibus, 6–8 cm. longis, multifloris; floribus sessilibus, bracteis late ovatis, 1 mm. longis, pubescentibus; calycis tubo crasso 5-lobato glabro, lobis late ovatis, 1 mm. longis; petalis

5 oblongis, 5 mm. longis, 3 mm. latis, glabris; staminibus circiter 40, filamentis gracilibus glabris 5–6 mm. longis; ovario 3-loculari; disco annulari glabro; stylo 6 mm. longo glabro, stigmate capitato; fructibus plus minusve conicis, circiter 4 mm. diametro, glabris sessilibus, calyce persistente.

HAINAN: Lokwui, F. C. How 72325 (TYPE), May 13, 1935, a shrub 2 m. high, on river banks, flowers white; Po-ting, F. C. How 73675, Sept. 15, 1935, a shrub 2 m. high, along streams, alt. 1200 ft., fruit pale green.

A species well characterized by its lanceolate leaves, long spicate inflorescences, and somewhat conical fruits. It is probably most closely related to *Symplocos laurina* Wall.

*Symplocos Howii* Merrill & Chun in herb. sp. nov. Subgen. *Hopea*, § *Bobua*, *Lodhra*.

Arbor circiter 18 m. alta, ramis teretibus fulvo-nigris, ramulis novellis glabris fulvis plus minusve angularibus; foliis subcoriaceis glabris distincte petiolatis oblongo- vel lanceolato-ellipticis, 7–11 cm. longis, 2–3 cm. latis, longe acuminatis, basi cuneatis, margine integris vel remote serrulatis, supra viridibus nitidis, subtus pallide viridibus, costa utrinque elevata, nervis lateralibus gracilibus utrinsecus 5 vel 6 adscendentibus anastomosantibus utrinque perspicuis, venulis reticulatis utrinque subconspicuis; petiolis circiter 1 cm. longis glabris; inflorescentiis ignotis; infructescentiis axillaribus spicatis, pedunculis circiter 1 cm. longis, minute pubescentibus vel glabris, 2–4-fructigeris; fructibus sessilibus vel subsessilibus ovoideis, 0.8–1 cm. longis, 0.6–0.8 cm. latis, glabris nitidis 3-locularibus; bracteis late ovatis, 1.5–2 mm. longis, calyce persistente.

HAINAN: Po-ting, F. C. How 73286 (TYPE), July 23, 1935, a tree 18 m. high, in forests, alt. 1800 ft., fruit lustrous green, 73346, no field notes available.

This species is very near *Symplocos setchuensis* Brand, differing in the leaves being narrower and sometimes serrulate, and in the infructescences being distinctly pedunculate.

*Symplocos permicophylla* Merrill & Chun in herb. sp. nov. Subgen. *Hopea*, § *Bobua*, *Lodhra*.

Frutex 2 m. altus, ramis teretibus gracilibus brunneo-nigris, ramulis novellis dense brunneo-pubescentibus; foliis perparvis coriaceis breviter petiolatis oblongo-ovatis, 1.5–2.5 cm. longis, 0.5–1 cm. latis, acuminatis, basi valde attenuatis, margine distincte glanduloso-serratis, utrinque glabris, supra viridibus subnitidis, subtus pallide viridibus, costa supra leviter impressa subtus elevata, venis venulisque utrinque obscuris; petiolis 2–3 mm. longis glabris interdum glandulosis; floribus axillaribus plerumque solitariis raro binis sessilibus vel subsessilibus, in ramulis hornotinis ortis, bracteis ovatis, 1.5 mm. longis, brunneo-pubescentibus; calycis tubo valde crasso, circiter 1 mm. longo, dense brunneo-pubescente, lobis 5 oblongis, 1.5 mm. longis, extus parce brunneo-pubescentibus, intus glabris; petalis 5 albis late ovatis rotundatis, 3.5 mm. longis, 2 mm. latis, omnino glabris; staminibus circiter 25–35, filamentis gracilibus glabris circiter 2–3.5 mm. longis, disco annulari indistincto; ovario 3-loculari, stylo 3.5 mm. longo glabro, stigmate capitato; fructibus immaturis oblongis, 6 mm. longis, 2 mm. latis, parce brunneo-pubescentibus, calyce persistente.

HAINAN: Po-ting, F. C. How 72900, June 14, 1935, a shrub 2 m. high, in forests, alt. 2400 ft., flowers white, fruit green, pubescent, 72972 (TYPE), June 23, 1935, a shrub 2 m. high, in forests, alt. 2900 ft., flowers white, fruit pale green, with brown pubescence.

A very distinct species, well characterized by its unusually small, coriaceous, sharply glandular-serrate leaves without visible veins and veinlets, and the mostly solitary axillary flowers, produced on the year's new branches.

*Symplocos atriolivacea* Merrill & Chun in herb. sp. nov. Subgen. *Hopea*, § *Bobua*, *Lodhra*.

Frutex 3-3.5 m. altus, ramis glabris brunneis, ramulis novellis adpresso hirsutis teretibus, brunneis; foliis chartaceis vel submembranaceis breviter petiolatis, in sicco atro-olivaceis utrinque subconcoloribus, in vivo e collectore supra atro-viridibus, subtus viridibus nitidis, oblongo-ovatis, 12-16 cm. longis, 3.5-5.5 cm. latis, acuminatis, basi late acutis, margine indistincte serrulatis, costa supra leviter impressa subtus valde elevata, venis lateralibus gracilibus utrinsecus 10-12 arcuato-anastomosantibus, nervis venulisque utrinque perspicuis; petiolis valde crassis circiter 5 mm. longis, glabris; inflorescentiis axillaribus fasciculatis subsessilibus vel leviter pedunculatis, 3-7-floris, pedunculis 2-3 mm. longis, pubescentibus; floribus sessilibus; bracteis late ovatis, 1.5 mm. longis, pubescentibus; calycis tubo crasso, 1 mm. longo, pubescente, lobis 5 ovatis, 3 mm. longis, extus pubescentibus, intus glabris; staminibus circiter 20, filamentis 2-3 mm. longis; disco protuso pubescente; ovario 3-loculari, stylo glabro 3 mm. longo, stigmate capitato; fructibus sublageniformibus, 1 cm. longis, 6 mm. crassis, pubescentibus, calyce persistente.

HAINAN: Po-ting, F. C. How 72938, June 18, 1935, a shrub 3 m. high, in thickets, alt. 2100 ft., fruit green, tomentose, 73262 (TYPE), July 20, 1935, a shrub 3.5 m. high, along trails near ravines, alt. 1300 ft., flowers white, fruit green.

In the olivaceous leaves, the densely pubescent, very short, and spicate inflorescences, and the prominent disk, this species is close to *Symplocos olivacea* Merr. of Tonkin, Indo-China. The two species, which evidently belong to the section *Bobua*, are rather unusual in having the leaves becoming strictly olivaceous when dry, in this character resembling species of the section *Cordyobaste* rather than *Bobua*. This new species can be distinguished from *S. olivacea* Merr. in the thinner, much larger, and more olivaceous leaves and the fewer stamens.

## OLEACEAE

### *Olea* Linnaeus

*Olea nerifolia* sp. nov.

Planta omnino glabra, ramis ramulisque cinereis, parce inconspicue lenticellatis; foliis chartaceis petiolatis lanceolatis, 5-8 cm. longis, 0.8-1 cm. latis, acuminatis, basi longe attenuatis, margine integris leviter revolutis, in sicco olivaceis utrinque concoloribus, costa supra leviter impressa subtus elevata, venis venulisque utrinque obscuris; petiolo crasso, circiter 5 mm. longo; inflorescentiis paniculatis axillaribus, circiter 3.2 cm. longis et 1.6 cm. latis; floribus minutis, pedicellis 1 mm. longis; calycibus 0.5 mm. altis, ad medium 4-lobatis, lobis ovatis acutis submembranaceis; corolla 1.5 mm. longa, ad  $\frac{1}{3}$  lobata, lobis acutis; antheris vix 1 mm. longis; ovario ovoido, stylo brevi, stigmate inconspicuo.

HAINAN: No field data, S. K. Lau 28388 (TYPE), in 1936.

A species resembling *O. cuspidata* Wall. but differing in the more lanceo-

late leaves, which are concolorous on both surfaces, as well as in its smaller flowers.

**Olea hainanensis** sp. nov.

Frutex 3-9 m. altus inflorescentiis exceptis glaber, ramis pallidis, ramulis plerumque brunneis pallide tessellatis; foliis chartaceis petiolatis ovato-oblongis, 10-15.5 cm. longis, 3-5 cm. latis, acuminatis, basi cuneatis, margine remote serratis vel subintegris, in sicco supra olivaceis subtus paullo pallidioribus, costa supra leviter impressa subtus elevata, venis lateralibus utrinsecus 7-9, utrinque subconspicuis, venis tertiaris supra obscuris subtus leviter impressis; petiolo crasso canaliculato ad 1 cm. longo; inflorescentiis paniculatis axillaribus, ad 5 cm. longis et 3 cm. latis, parce pubescentibus vel subglabris; floribus minutis, pedicellis 1 mm. longis; calycibus 0.75 mm. altis, ad medium lobatis, lobis triangularibus, subacute, margine leviter ciliatis; corolla 1.5 cm. longa, ad  $\frac{1}{3}$  lobata, lobis rotundatis; antheris ad 1 mm. longis; ovario rudimentario; floribus perfectis ignotis.

HAINAN: Ling Shui, *F. C. How* 73749 (TYPE), Oct. 7, 1935, a tree 9 m. high, in forests, alt. 1700 ft., flowers greenish; Po-ting, *F. C. How* 73762, Oct. 10, 1935, a large shrub 4 m. high, in forests, alt. 1700 ft., flowers greenish, *S. K. Lau* 27977, Oct. 14, 1936, 28108, Oct. 27, 1936, a shrub 3-4 m. high, in dense woods, flowers pale green.

This species is very close to *O. dentata* Wall., of India, differing in the much shorter inflorescences and smaller flowers.

RUBIACEAE

**Gardenia** Ellis

**Gardenia angkorensis** Pitard in Lecomte, Fl. Gén. Indo-Chine 3: 252. 1923.

HAINAN: Kumyun, *S. K. Lau* 27656, Aug. 11, 1936, a shrub 3 m. high, in dense forests, on slopes, fruit green; Yaichow, *H. Y. Liang* 63049, Sept. 13, 1933, a shrub 2 m. high, in shady forests in ravines, fruit green. Indo-China. New to Hainan.

The occurrence of a plant from the southern part of Indo-China in Hainan is noteworthy. Pitard separates the Indo-Chinese plants originally referred by Pierre to a single species, *Gardenia cambodiana* Pierre, according to his manuscript names, into two species, *G. cambodiana* Pierre and *G. angkorensis* Pitard. The differences are that in *Gardenia cambodiana* the sepals are more or less foliaceous and the leaves slightly larger. Only one flowering specimen of *G. cambodiana* is available for study. The Indo-Chinese and Hainan plants closely match the description of *G. angkorensis*. Both the Indo-Chinese and Hainan plants give indications of growing in a somewhat xerophytic habitat, this being revealed by their general appearance. I am not entirely certain that two species should be maintained here as Pitard has proposed.

**Psychotria** Linnaeus

**Psychotria hainanensis** sp. nov.

Suffrutex erectus circiter 1 m. altus, omnino glaber, ramulis ultimis circiter 2 mm. diametro; foliis subchartaceis oblongo-ellipticis, 8-14.5 cm. longis, 3.5-6 cm. latis, acuminatis, basi attenuatis, margine integris, supra viridibus, subtus pallidioribus, nervis lateralibus utrinsecus 8-14 adscendentibus prope marginem arcuatis utrinque conspicuis, venulis obscuris; petiolis 1-2 cm. longis; stipulis triangularibus, 8 mm. longis, 5 mm. latis,

apice longe acuminatis, caducis; floribus ignotis; infructescentiis terminalibus sessilibus 2-fructigeris, bracteis linear-lanceolatis, circiter 7 mm. longis, acuminatis; fructibus glabris pedicellatis ovoideis, circiter 9 mm. longis et 7 mm. crassis, haud sulcatis, calycis lobis linear-lanceolatis 1.5 mm. longis persistentibus coronatis; pedicellis 4 mm. longis; seminibus plano-convexis haud sulcatis, albumine aequabili.

HAINAN: Po-ting, *F. C. How* 73609 (TYPE), Sept. 3, 1935, 1 m. high, in forests on summits of mountains, alt. 3800 ft., fruit green.

### Lasianthus Jack

*Lasianthus Chevalieri* Pitard in Lecomte, Fl. Gén. Indo-Chine 3: 384. f. 30, 6. 1924;  
Merr. Jour. Arnold Arb. 21: 386. 1940.

HAINAN: Kan-en District, Chim Fung Mt., near Fong Ngau Po Village, *S. K. Lau* 5221, Jan. 2-31, 1935, 3 m. high, fairly common, on dry steep slopes, in forests, fruit yellow. Indo-China. New to Hainan.

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